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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MOORE, MARGARET G	
ART UNIT	**PAPER NUMBER**
1712	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,432	ZHONG ET AL.	
	Examiner	Art Unit	
	Margaret G. Moore	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 to 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 to 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 1 to 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 7 and 14, the definition of Z_n is unclear. On one hand it is defined as a *poly*cyclic moiety but on the other hand n can be 1. Such an n value would not form a *poly*cyclic moiety.

In claim 2, the ranges of "a", "b" and "c+d" are confusing and seemingly incorrect. For instance, as found in this claim, the minimum total for a + b is .6. Thus there could never be an upper c+d value of .6. Also note that one cannot have the maximum of .7 for either a or b because this, taken with the minimum for each, would result in 1. Such a value would not allow for any c+d. Clarification is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3 to 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al.

Sakamoto et al. teach a method in which a siloxane resin and another compound are reacted. While columns 3 and 4 define the reactants that form the siloxane resin, particular attention is drawn to the working examples which prepare a siloxane resin meeting claim 1. Such a siloxane resin is further reacted with a compound that has an absorption capacity. While this example does not show one that will result in the necessary X group, column 5, lines 62 and 63 do. These compounds are taught as being equivalent to that shown in the working example as they will react with the siloxane resin and they have an absorption capacity as taught therein. Note that the specific compound that will result in the formula of claim 4 is specifically taught. One having ordinary skill in the art would have found the selection of a reactant such as

hydroxylmethylanthracene instead of the phenolic resin shown in Example 1 to have been obvious, motivated by the functional equivalence of the two as suggested by Sakamoto et al. As such one having ordinary skill in the art would have found a composition having the SiH containing resin formula as claimed, and having an X group as claimed, obvious over the teachings of Sakamoto et al.

Column 7, lines 10 and on, teaches various solvents meeting claims 5 and 6. The example referenced above is comparable to the method of Example 7, with of course the exception of a different light absorbing compound (the obviousness of which is addressed supra).

Please note the acid components taught on column 6, lines 25 to 60, as they meet claims 8, 9 and 11.

For claim 10, adjusting the time and reaction temperature in an effort to optimize the process in Sakamoto et al. would have been obvious. For instance both of these conditions will directly relate to the degree of completion of the reaction and, obviously, the total time of this reaction.

For claim 12, while the process in Example 1 first prepares the siloxane resin, it is apparent from the entirety of the specification that such a first step is not necessary. Note for instance that column 2, lines 45 and on, indicate that it is the silane compound and not a preformed siloxane that is reacted with the light absorbing compound. In addition, prior to the working examples, the body of the specification never specifically spells out an initial siloxane preparation step. Thus the skilled artisan would have found this simultaneous reaction to be obvious.

For claim 14, see column 8, lines 20 to 25. For claims 15 and 16, patentees show heating in this range in the working examples. Though this does not disclose the time, the skilled artisan would have found a time within the claimed ranges to have been obvious. Note for instance that the time required for this heating step is only the time required for the composition to dry and form a coating. Adjusting the time in an effort to determine the operable and/or optimum drying time would have been within routine experimentation.

For claim 19, see column 1, lines 15 and on.

4. Claims 1, 3 to 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al.

Kennedy et al. teach a coating material that includes an organic absorbing compound into a spin on glass material. As defined on column 4, line 11, such a material includes a hydrogen siloxane polymer having both "a" and "b" units (note that patentees avoid referring to this general formula as a silsesquioxane indicating that at least some $SiO_{4/2}$ units are present). Column 4, lines 51 and on, discuss that absorbing compounds having reactive groups such as hydroxyl react with, and incorporate themselves into, the spin on glass material. Specifically patentees teach 9-anthracene methanol (compound 3 in Figure 1a).

Thus one having ordinary skill in the art would have found the reaction between a siloxane hydride resin and 9-anthracene methanol to have been obvious in view of the teachings in Kennedy. Note that 9-anthracene methanol meets claims 3 and 4.

For instance, see Example 12. This shows the reaction between a spin on glass material and 9-anthracene methanol. Note that this occurs simultaneously, as found in claim 12, and in the presence of an acid that meets claims 8, 9 and 11. This differs from that claimed only in that it uses TEOS in combination with MTEOS rather than HTEOS (see column 6, lines 22 to 25). As noted previously, though, the spin on glass material can be the reaction product of TEOS and HTEOS in an equivalent manner as the reaction product of TEOS and MTEOS. Since it is obvious to use one equivalent for another, the skilled artisan would have found this difference to be obvious.

The solvent taught on column 6, line 42, meets claim 6.

For claim 10, see column 6, lines 35 to 37, which teach a reaction time of 1 hour.

For claims 14-16 see column 7, lines 32-34. For claim 19 see column 7, line 26.

5. Claims 17 and 18 are neither taught nor suggested by the prior art. There is nothing in either reference that teaches or suggests in inert atmosphere, particularly nitrogen. While claim 2 is not rejected over prior art, the Examiner will reconsider this issue when claim 2 is clarified, as required in paragraph 1, supra.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday to Wednesday and Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Margaret G. Moore
Primary Examiner
Art Unit 1712

mgm
6/1/07